

A SPECIES OF DISCOSIA ON LIVING BULL PINE SEEDLINGS

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(WITH PLATE 14, CONTAINING 7 FIGURES)

A dozen or more species of *Discosia* are recorded by Saccardo from various parts of the United States. The species of this genus have been found upon the leaves of various herbaceous plants and upon the leaves of deciduous trees. In all cases, they were on languid, dead, dry, or decomposing remains of the host plant. One species has been described from the samaras of *Fraxinus americana*. Two species of the genus have been described from specimens found on coniferous hosts: *Discosia virginiana* Thüm.* on the dead leaves and branches of *Juniperus virginiana*, from Newfield, N. J., and *Discosia strobilina* Lib. on the fallen cones of a species of *Abies* from Arduennis.†

During an examination of the Forest Reserve at Halsey, Nebr., May 17, 1907, in an effort to determine the cause of a troublesome blight of the young pine seedlings, my attention was called by Mr. W. F. Mast to the fungus here described. The species, which is apparently a new one, was found growing upon the *living seedlings* of the bull pine (*Pinus ponderosa*). It has not been determined whether this fungus is in any way connected with the blight that was prevalent. In all cases where the fruiting fungus was found on the seedlings, they did not show any signs of injury, but were apparently in *vigorous condition*.

The seedlings which showed the fruits of the fungus were in the year old beds. The pycnidia are scattered along the hypocotyl slightly above the ground line, and show as minute coal-black specks, easily visible to the naked eye (Fig. 1). The following measurements will give their variation in size: (1), $164 \times 310.5 \mu$; (2), $155 \times 241.5 \mu$; (3), $121 \times 241.5 \mu$; (4), $138 \times 362 \mu$; (5), $121 \times 224 \mu$.

* Saccardo, Syll. Fung. 10: 427. 1892.

† Saccardo, Syll. Fung. 3: 656. 1884.

The pycnidia vary in form; the majority are oblong or elliptical, while some are lobed or notched. In all a central ostiole is present (Figs. 2, 3).

The spores are three-septate and either clear or slightly smoky, and each terminal cell bears a straight or slightly curved cilium a little longer than half the length of the spore. In many of the spores the two terminal cells are quite clear, and less granular than the two middle cells. The spores are comparatively uniform in diameter, and nearly straight, with a slight curvature on the side directed away from the cilia. The length varies from 12 to 20 μ but the diameter shows no appreciable variation, never exceeding 2.6 μ (Figs. 4, 5). The detail of the spore formation as represented in cross-sections of the pycnidia shows the spore-bearing branches as straight, unbranched hyphae with spores erect and packed closely together (Fig. 6).

The parenchymatous condition of the pycnidium wall is very apparent in the basal portion but less so in the superficial portion. A characteristic and well-marked feature of the pycnidium is the occurrence of vertical supporting columns of hyaline hyphae which run from the floor of the pycnidium to the roof, and serve to retain the wall of the pycnidium in its original position until the spores have escaped (Fig. 7).

The following technical description of this fungus is appended:

***Discosia Pini* sp. nov.**

Peritheciis sparcis vel subgregariis, superficialibus, applanatis, nigris, opacis, glabris, ostiolo subpertusis; ellipticis vel leniter lobulatis, 225-362 μ = 120-165 μ ; sporulis oblongo-fusiformis, 3-septatis, hyalinis vel leniter fumagineis, 12-20 = 2.6 μ , 2-ciliatis, 10-12 μ longis (*pl. 14, f. 1-7*).

Ad hypocotylem viventem *Pini ponderosae*, Forest Reserve, Halsey, Nebraska.

Type specimen, No. 758, Herb. Dept. Agric. Bot., Univ. of Nebraska, Lincoln, Nebraska.

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